Papuasian Orchid Studies, 2

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Summary

P. Ormerod (2005). Papuasian Orchid Studies, 2. *Austrobaileya* 7(1): 183–203. The new species *Dendrobium eymanum, D. flebiliflorum, D. paragnomus, D. spenceanum, D. spinuliferum, D. stipiticola, Glomera pseudomonanthos, Pseuderia takeuchii, Robiquetia brassii* and *Tainia serratiloba* are described from Papuasia (Indonesian Papua, Papua New Guinea, Solomon Islands). All species are illustrated and notes are provided on their affinities, distribution and habitats.

Key Words: Orchidaceae, *Dendrobium eymanum, Dendrobium flebiliflorum, Dendrobium paragnomus, Dendrobium spenceanum, Dendrobium spinuliferum, Dendrobium stipiticola, Glomera pseudomonanthos, Pseuderia takeuchii, Robiquetia brassii, Tainia serratiloba,* Papua New Guinea flora, Indonesian Papua flora, new species

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Introduction

This paper is the second in a series devoted to the study of Papuasian Orchids and deals with fourteen species belonging to five genera. The first part (Ormerod 2003) dealt with five species and two subspecies belonging to the genera *Appendicula* Blume, *Dendrobium* Sw. and *Eulophia* R.Br. ex Lindl. The orchid flora of Papuasia (Indonesian Papua, Papua New Guinea, Solomon Islands) comprises approximately 2800 species distributed in about 137 genera. Despite this richness there is comparatively little basic taxonomic work in progress. This paper is thus an attempt to redress the latter situation and draws attention to a number of infrequently collected and previously undescribed taxa.

Materials and methods

This study is mostly based on examination of rehydrated herbarium materials from Papuasia. Living and spirit-preserved material was examined only for the description of *Dendrobium paragnomus*. Herbarium collections were studied from AMES, BRI, K, LAE and NSW. All specimens have been seen unless otherwise indicated.

Taxonomy

Dendrobium Sw.

In the broad sense of this genus the island of New Guinea has about 420 species (Schuiteman & de Vogel 2001). The notes below mostly concern taxa in the sections *Latouria* and *Pedilonum*; however, a new species is also named from the section *Herpetophytum.*

Dendrobium sect. **Herpetophytum** Schltr.

This section contains sixteen accepted species all endemic to New Guinea. The known taxa are *D. appendicula* Schltr., *D. decumbens* Schltr., *D. disoides* Schltr., *D. fusciflorum* Ormd., *D.glossorhynchoides* Schltr., *D herpethophytum* Schltr., *D. hippocrepiferum* Schltr., *D.millarae* A.D.Hawkes, *D. minimiflorum* Gilli, *D. nigricans* Schltr., *D. oxychilum* Schltr., *D. podocarpifolium* Schltr., *D. scopula* Schltr. (syn.: *D. lucidum* Schltr.), *D. vagabundum* A.D.Hawkes & Heller, *D. vestigiiferum* J.J.Sm. and *D. vonroemeri* J.J.Sm. The plants are easily mistaken in herbaria for specimens of *Podochilus* Blume due to a superficially similar habit of wiry, branching stems with small leaves. Apart from the distinctive habit, plants of section *Herpetophytum* are characterized by having single-flowered inflorescences, nonresupinate flowers lasting several days and connate lateral sepals which form a frontally closed oblongoid mentum.

Recently I added *Poaephyllum fuscum* Ridl. to this section as *Dendrobium fusciflorum* with the comment that it has the longest leaves (to 43 mm) in the section (Ormerod 2002). This remark is incorrect; both *D. podocarpifolium* Schltr. and *D. vagabundum* A.D.Hawkes & Heller have longer leaves (to 60mm long).

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Dendrobium stipiticola Ormerod **sp. nov.**

Species nova in sectione *Herpetophyto* singularis, foliis carnosis brevisque, labellis subbilobatis et epichilio obsolescenti statim dignoscenda. **Typus:** Papua New Guinea. Western Highlands Province: Mt. Hagen Subdistrict, Tomba to Mt. Hagen track, 26 May 1972, *P.F. Stevens & J.F. Veldkamp LAE 54919* (holo: AMES).

Epiphytic herb. Roots terete, 0.5–0.8 cm thick. Primary stem at least 30 cm long and 0.09–0.11 cm thick; with stemlets to 7.5 cm long and 0.1–0.15 cm thick arising every 1.5–4 cm, these root at the base and become bare in the lower half as the leaves dehisce. Leaves fleshy, subfalcate-oblong and obtuse in lateral view, mid dull green, to 6 mm long, one side *c.* 1.75 mm wide; leaf sheaths smooth. Inflorescences single, axillary, one-flowered, *c.* 1 mm long. Flowers nonresupinate; pedicel plus ovary clavate, *c.* 4 mm long; sepals yellow in bud but dirty white when open, lip edged purple. Dorsal sepal oblong-elliptic, obtuse, margins involute in upper half, *c.* 6.5 mm long and 2.5 mm wide; lateral sepals broadly ovate-elliptic, with an oblong-elliptic basal dilation *c.* 2.5 mm long, that forms with the columnfoot a *c.* 3 mm long oblongoid and retrorse mentum, obtuse, margins involute in apical third, *c.* 5 mm long at midline and *c.* 3 mm wide halfway. Petals oblong-elliptic, subacute, *c.* 6 mm long and 2 mm wide; labellum with claw *c.* 3 mm long and 2 mm wide thence expanding into a transversely elliptic-reniform blade *c.* 4 mm long and 6mm wide with broadly elliptic-subquadrate broadly rounded sidelobes and a minute recessed emarginate midlobe. Column semiterete, *c.* 2.5 mm long with columnfoot about 3 mm long. **Fig. 1.**

***Distribution and habitat*:** Papua New Guinea, Western Highlands Province. Lower montane forest, *c.* 2980 m. The type was collected from a fallen log.

***Notes*:** This species is unique in the section due to its combination of short fleshy leaves and its flowers with a sub-bilobed lip with a tiny recessed midlobe. The collectors of the type also believed they saw the same species lower down at 2560 m.

***Etymology*:** The specific epithet is derived from the classical Latin *stipitis* (stalk or stem; in classical times applied to a log, stump or trunk of a tree) and the compound *cola* (a dweller) in reference to where the type specimen was found growing.

Dendrobium sect. **Latouria** (Blume) Miq.

There are about 53 currently accepted species in this section. Another four are added here along with some notes on synonymy and a previously overlooked combination. The previous revision of sect. *Latouria* by Cribb (1983) dealt with 48 taxa and is still a quite useful account for orchid hobbyists since all the later described entities are rarely encountered in horticulture and then usually in specialist collections.

Dendrobium eymanum Ormerod **sp. nov.**

Species nova affinis *D. acutisepalo* J.J.Sm. sed carinis labelli glabris et apicis oblique elevates differt. **Typus:** Indonesia. Papua Province: Wissel Lakes area, Enarotali to Koegapa, Egogitoagapa to Enarotali, 29 March 1939, *P.J. Eyma 4814* (holo: AMES [right hand specimen]; iso: K, L *n.v.*).

Dendrobium acutisepalum auct. *non* J.J.Sm.: van Royen (1979: 314, *p.p.*); Cribb (1983: 305, *p.p.*).

Roots fleshy, terete, 0.2–0.3 cm thick. Stem 5–6 leaved in upper half, terete, to 24 cm long and 0.4–0.5 cm thick; internodes 0.85–3.5 cm long. Leaves stiffly coriaceous, erect, elliptic, obtuse to weakly bilobed, 3–5 cm long and 1.7–2.4 cm wide. Inflorescences subterminal, laxly 7–10 flowered, to 22 cm long; peduncles 12–14.5 cm long; sheathing bracts 2–3, scattered, tubular, clasping, 1.2–1.4 cm long; rachis to 7.5 cm long; floral bracts lanceolate-cymbiform, acute, 0.6–0.9 cm long and 0.2–0.3 cm wide. Flowers resupinate, colour unknown; pedicel plus ovary terete, becoming weakly obconical and with low (irregular or wavy) ribs 20–28 mm long. Dorsal sepal oblong, acute, *c.* 13 mm long and 4.1–5 mm wide; lateral sepals ovate-elliptic, acute, medially carinate, *c.* 13 mm long and 10.5 mm wide basally, at middle *c.* 5 mm wide, forming with the columnfoot a conical 7.5–8 mm long

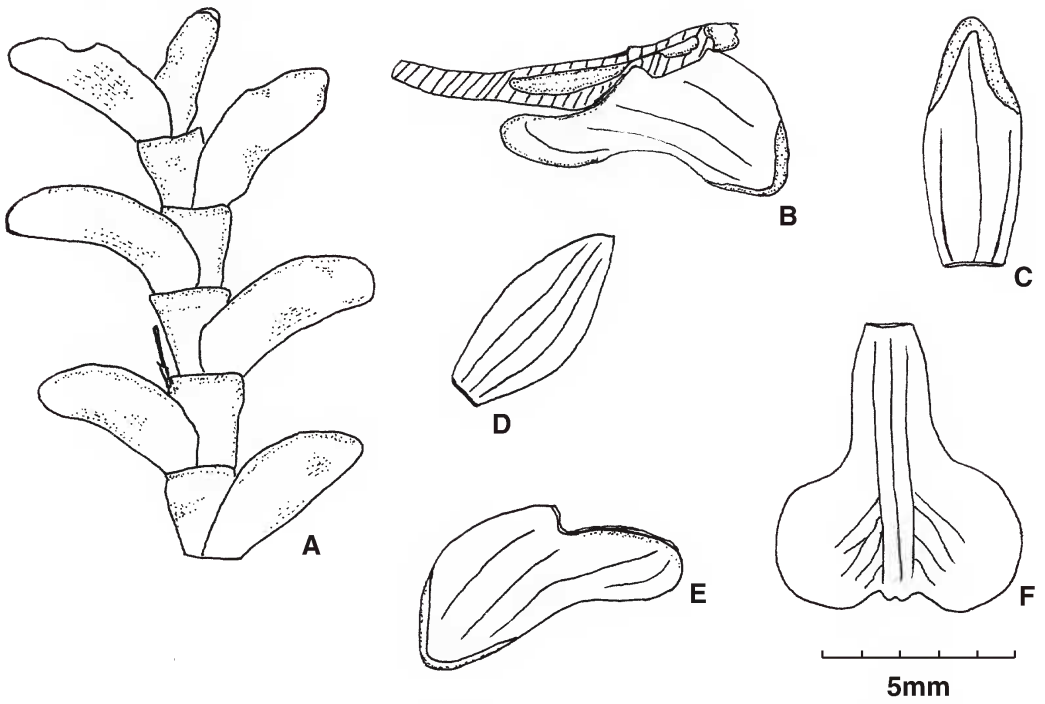

Fig. 1. ***Dendrobium stipiticola.*** A. apex of stemlet with old inflorescence remnant. B. longitudinal section of pedicel plus ovary and column with lateral sepal. C. adaxial view of dorsal sepal. D. adaxial view of petal. E. adaxial view of lateral sepal. F. adaxial view of labellum. All from *Stevens & Veldkamp LAE 54919* (AMES). Scales as indicated.

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mentum. Petals obovate-elliptic, *c.* 13.5 mm long and 5 mm wide; labellum trilobed, *c.* 17 mm long; hypochile *c.* 16 mm long to tip of sidelobes (including the *c.* 5 mm long 'claw') and 12 mm wide; sidelobes obliquely obcuneate, obtuse; callus of three thickly laminate carinae most prominent between the sidelobes, the midkeel only evident apically, apices rounded and raising forward, *c.* 2 mm high at termination at base of epichile; epichile concave, transversely elliptic-trapeziform, subacute, *c.* 5.5 mm long and 4 mm wide. Column short, stout, *c.* 2 mm long; columnfoot 7.5–8 mm long. **Fig. 2.**

***Distribution and habitat*:** Indonesia, Papua Province. Heath vegetation at *c.* 3000 m.

***Notes*:** Florally this species strongly resembles *Dendrobium acutisepalum* J.J.Sm. from which it may be distinguished by the slightly longer mentum (7.5–8 mm vs. 6 mm), an oblong (versus elliptic) dorsal sepal, a labellum callus with glabrous, thickly laminate carinae that raise up and forward at termination and the transversely elliptic-trapeziform (or subtrilobate) midlobe. In *D. acutisepalum* the lip has a callus with thicker keels that are verrucose above in the upper half which do not raise forward obliquely at termination and the midlobe varies from rhombic to oblong-lanceolate but is never subtrilobate.

On the type sheet of *D. eymanum* I have chosen the specimen on the right hand side of the sheet to be the holotype. The material on this sheet is not a mixture it is just that the specimen on the left hand side has slightly younger flowers.

Dendrobium eymanum probably occurs at higher altitudes (3000 m+) since it was collected in an area of heath vegetation which is typically an element of the alpine flora.

***Etymology*:** The specific epithet honours P.J. Eyma, collector of the type specimen.

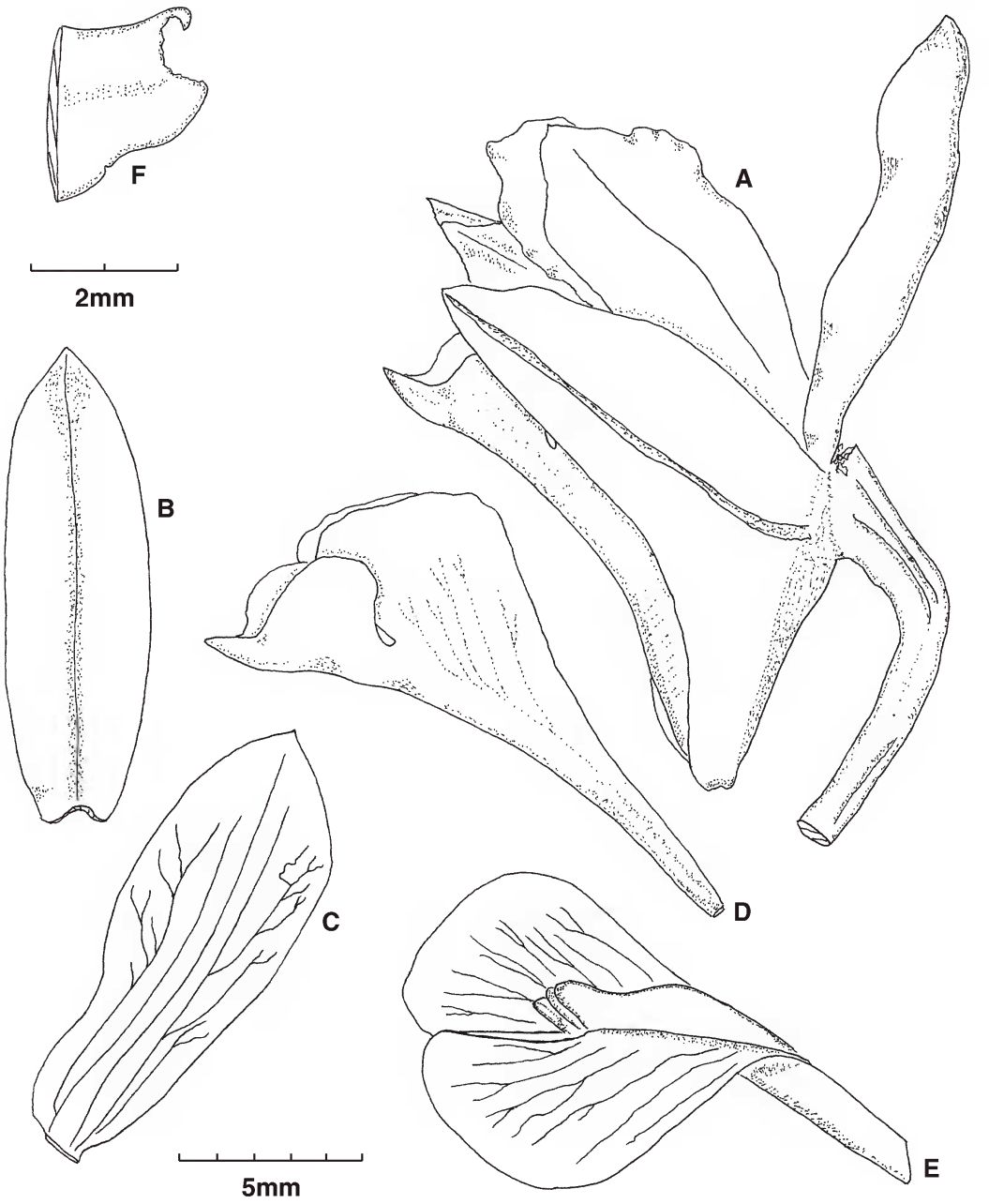

Fig. 2. ***Dendrobium eymanum.*** A. lateral view of flower. B. adaxial view of dorsal sepal. C. adaxial view of petal. D. lateral view of labellum. E. labellum minus midlobe with sidelobes spread. F. column. All from *Eyma 4814* (AMES). A-E and F to respective scales.

Dendrobium flebiliflorum Ormerod **sp. nov.**

Species nova inter species generis *Dendrobii* mento floris semilunatis, labello trilobatis et epichilio transverse ellipticis distincta. **Typus:** Papua New Guinea. Southern Highlands Province: Ialibu area?, received 22 January 2003, cult. *G.C. Stocker s.n.* (holo: BRI [AQ751261]).

Stems narrowly clavate, shallowly sulcate, erect, bifoliate, *c.* 18 cm long and 0.25–0.3 cm wide basally, *c.* 0.4 cm wide at middle. Leaves broadly oblong, acute, 3–6 cm long and 1.5–1.9 cm wide. Inflorescences subterminal, erect, 2–3 flowered, up to 4.5 cm long; peduncles up to 3.2 cm long; rachis weakly fractiflex (zig zag), up to 1.3 cm long; floral bracts ovate, acute, *c.* 0.4 cm long and 0.2 cm wide. Flowers resupinate; pedicel plus ovary clavate, 1.6–1.7 cm long; sepals greenish tinted brownish, whitish at base. Dorsal sepal broadly ovate, acute, *c.* 7 mm long and 5 mm wide; lateral sepals broadly ovate, acute, forming with the columnfoot an 8–9 mm long incurved-semilunate obtuse mentum, *c.* 8 mm long and 9.5 mm wide. Petals broadly oblong-subcuneate, acute, *c.* 8 mm long and 3 mm wide; labellum trilobed, *c.*10 mm long; hypochile with obliquely oblong sidelobes, half of apex minutely denticulate, other half rounded-entire, sidelobes *c.* 6 mm long and 4 mm wide basally then slowly narrowing to *c.* 3 mm wide; callus of three laminate keels highest at their termination at the base of the midlobe; epichile transversely elliptic-reniform, margins minutely erose-denticulate, *c.* 3 mm long and 6 mm wide. Column short, *c.* 3.5 mm long and *c.* 3 mm wide at base; anther cap *c.* 1 mm long; columnfoot *c.* 8 mm long. **Fig. 3.**

***Distribution*:** Papua New Guinea. The precise distribution of this species is unknown.

***Notes*:** This plant is a singular, small-flowered species of which I know no close relatives. It is distinctive in having flowers with a blunt, semilunate mentum combined with a trilobed lip with a low, trilaminate callus and transversely elliptic midlobe.

***Etymology*:** The specific epithet is derived from the Latin *flebilis* (mournful or sad) and *florus* (flowered) in reference to the dull colour of the flowers.

Dendrobium montis-yulei Kraenzl., in A.Engler, *Pflanzenr.* IV. 50. II. B. 21, 45: 150 (1910).

Type: Papua New Guinea. Central Province: near Mt. Yule, *W. McGregor s.n.* (holo: B†; iso: HBG (photograph and sketch seen)).

Dendrobium terrestre J.J.Sm., *Bull. Jard. Bot. Buitenz.* 2: 10 (1911), ***syn. nov.*** **Type:** Indonesia. Papua Province: Mt. Goliath, March 1911, *A.C. de Kock 119* (holo: BO *n.v.*).

***Additional specimen examined*: Indonesia.** Papua Province: Wissel Lakes, Enarotali, May 1960, *Vink & Schram 8599* (AMES).

***Distribution*:** Indonesia (Papua Province); Papua New Guinea (Central Province).

***Notes*:** Cribb (1983) correctly suspected that *D. montis-yulei* was the earlier name for *D. terrestre* but due to the unavailability of type material he did not combine the two. Since then the type specimen (or part of it) has been located in Hamburg. Dr. Dariusz Szlachetko kindly sent an analytical drawing and photograph of the latter, interpretation of which confirms the need for the above reduction.

Cribb (1983) also noted two albinistic variants from Papua New Guinea. A similar form also seems to occur in Indonesian Papua Province, since according to the collectors of the above number from Wissel Lakes, it has white flowers, a green lip and a column coloured green with red.

Dendrobium spenceanum Ormerod **sp. nov.**

Species nova affinis *D. rarifloro* J.J.Sm. sed petalis obovatis et epichilio labelli profunde emarginatis differt. **Typus:** Indonesia. Papua Province: 4 km SW of Bernhard Camp, Idenburg River, March 1939, *L.J. Brass 13324* (holo: AMES).

Epiphytic herb. Rhizome abbreviated. Roots terete, relatively fleshy, to 1.8 mm thick. Stems unifoliate, when ovoid (then *c.* 13 mm long and 6 mm thick), fusiform when older, *c.* 25 mm long and 5.5 mm thick, lower part *c.* 2 mm thick. Leaves stiffly coriaceous, oblong-elliptic, acute, *c.* 35 mm long and 13 mm wide. Inflorescences pseudoterminal, one flowered, *c.* 27 mm long;

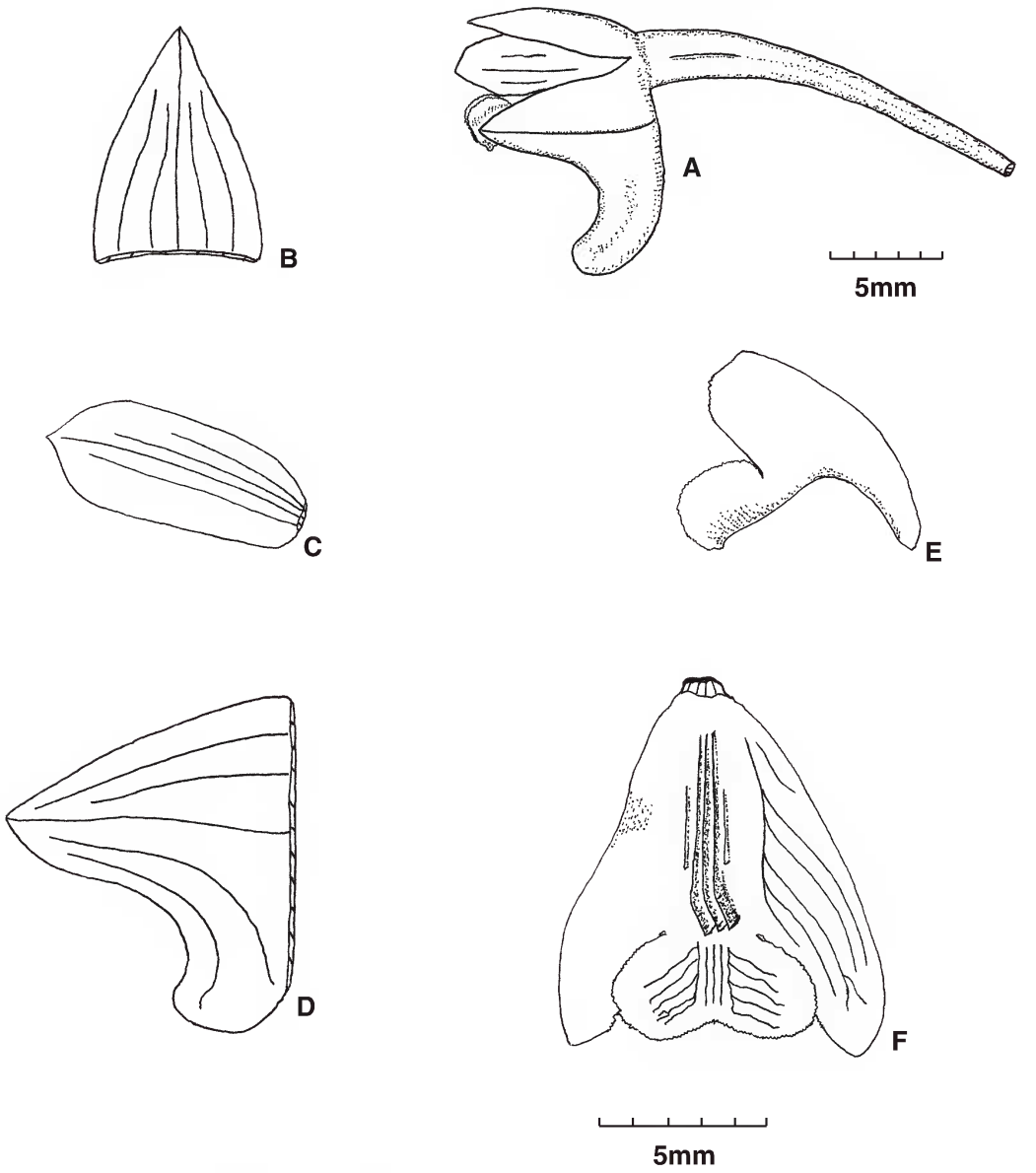

Fig. 3. ***Dendrobium flebiliflorum.*** A. lateral view of flower. B. adaxial view of dorsal sepal. C. adaxial view of petal. D. adaxial view of lateral sepal; E. lateral view of labellum. F. adaxial view of labellum. All from *Stocker s.n.* (BRI [AQ751261]). A and B-F to respective scales.

sheathing bracts *c.* 2.5 mm long; floral bracts *c.* 2 mm long. Flowers *c.* 11 mm long; pedicel plus ovary weakly ribbed, narrowly clavate, glabrous; sepals and petals dirty white, lip brown. Dorsal sepal elliptic, obtuse, *c.* 13 mm long and 6.5 mm wide; lateral sepals broadly elliptic, obtuse, *c.* 12 mm long and 11 mm wide, forming with the columnfoot a *c.* 5 mm long bluntly conical mentum. Petals obovate, minutely apiculate *c.* 12 mm long and 7 mm wide; labellum trilobed, flabellate-obdeltate, *c.* 16 mm long and 17 mm wide; callus *c.* 9 mm long, thickly tricarinate in apical third, its lateral carinae weakly evident basally, the midkeel most

evident apically; sidelobes broadly obovate-subquadrate, rounded, *c.* 6.5 mm wide (measured obliquely in free part); epichile transversely oblong-bilobulate (each side obliquely subquadrate), deeply emarginate, *c.* 3 mm long and 7 mm wide. Column semiterete-conical, *c.* 2.5 mm long; columnfoot *c.* 5 mm long. **Fig. 4.**

***Distribution and habitat*:** Indonesia, Papua Province. Lower montane mossy forest at *c.* 900 m.

***Notes*:** The plant habit and general lip shape (including the callus) of this species is reminiscent of *D. rariflorum* J.J.Sm. It differs from that species in having obovate petals and a lip with a transversely oblong-bilobulate midlobe. In *D. rariflorum* the petals are rhombic and the lip has an elliptic-subrhombic midlobe longer than broad.

***Etymology*:** The species is named after Mr. Phil Spence who has long maintained a specialist interest in the taxa of section *Latouria* with regards to both cultivation and taxonomy.

Dendrobium spinuliferum Ormerod **sp. nov.**

Ab omnibus aliis speciebus sectionis *Latouriae* inflorescentiis sub-unifloris, floribus pallide viridibus, labello flabellatis humili-carinatis et nervis pro medio molliter spinuliferis longis distinguitur. **Typus:** Indonesia. Papua Province: 15 km SW of Bernhard Camp, Idenburg River, January 1939, *L.J. Brass 12051* (holo: AMES).

Epiphytic herb. Rhizome abbreviated. Roots several, terete, *c.* 1 mm thick. Stems bifoliate, narrowly clavate, to 65 mm long and 3 mm thick. Leaves coriaceous, lanceolate, acute, *c.* 37 mm long and 7 mm wide. Inflorescences subterminal, one (two?) flowered, *c.* 5 mm long; floral bracts broadly ovate, cupular, acute, *c.* 2 mm long. Flowers resupinate; pedicel plus ovary terete, obconically dilated apically, *c.* 20 mm long, glabrous; sepals and petals pale green, lip pencilled with purple. Dorsal sepal ovate-elliptic, acute, *c.* 14 mm long and 7 mm wide; lateral sepals ovate-deltate, acute, *c.* 15 mm long and 12 mm wide, forming with the columnfoot a *c.* 8 mm long bluntly conical mentum. Petals oblong-lanceolate, acute, *c.* 13.5 mm long and 4 mm wide; labellum trilobed, broadly clawed thence widely flabellate-obdeltate; hypochile *c.* 17 mm long and 20 mm wide with the *c.* 8 mm wide sidelobes irregularly erose-truncate apically; keels three, rather low, separated, each broadly grooved above, the lateral ones each terminating in a line of softly fleshy spinuliform projections and also flanked alongside the outer edges with a line of the same projections which also occur occasionally on the veins of the sidelobes; epichile stiffly flexible, transversely elliptic-reniform when spread, margin irregular, apex decurved, acute, *c.* 5 mm long and 10 mm wide. Column short, subconical, *c.* 3 mm long; columnfoot 7.5–8 mm long. **Fig. 5.**

***Distribution and habitat*:** Indonesia, Papua Province. Lower montane mossy forest at *c.* 1800 m.

***Notes*:** This species seems to stand alone in section *Latouria* due to its combination of rare characters such as the very short inflorescence of one relatively large flower, the large sidelobes irregularly toothed at the front and the low separated keels terminating in and flanked by soft spinuliform projections.

The type specimen has only one leaf but an abscission scar on that leaf-bearing stem indicates that two leaves were originally present.

***Etymology*:** The specific epithet is derived from the Latin *spinula* (a small thorn or prickle) and the compound *-fer* (carrying or bearing), in reference to the labellum with spinuliform processes.

Dendrobium stenopterum (Rchb.f.) Chadim, Orchadian 4: 28 (1972).

Dendrobium macrophyllum A.Rich. var. *stenopterum* Rchb.f., *Gard. Chron. 3rd series* 3: 393 (1888).

Type: *Sine loc.* [? New Guinea], May 1888, cult. *W. Bull s.n.* (holo: W *n.v.*, icon W49207, microfiche seen).

Distribution: Not known.

***Notes*:** The above combination has been overlooked probably because Chadim (1972) made it among the bibliography at the end of his article. He definitely accepted the name *D. stenopterum* for a species different from

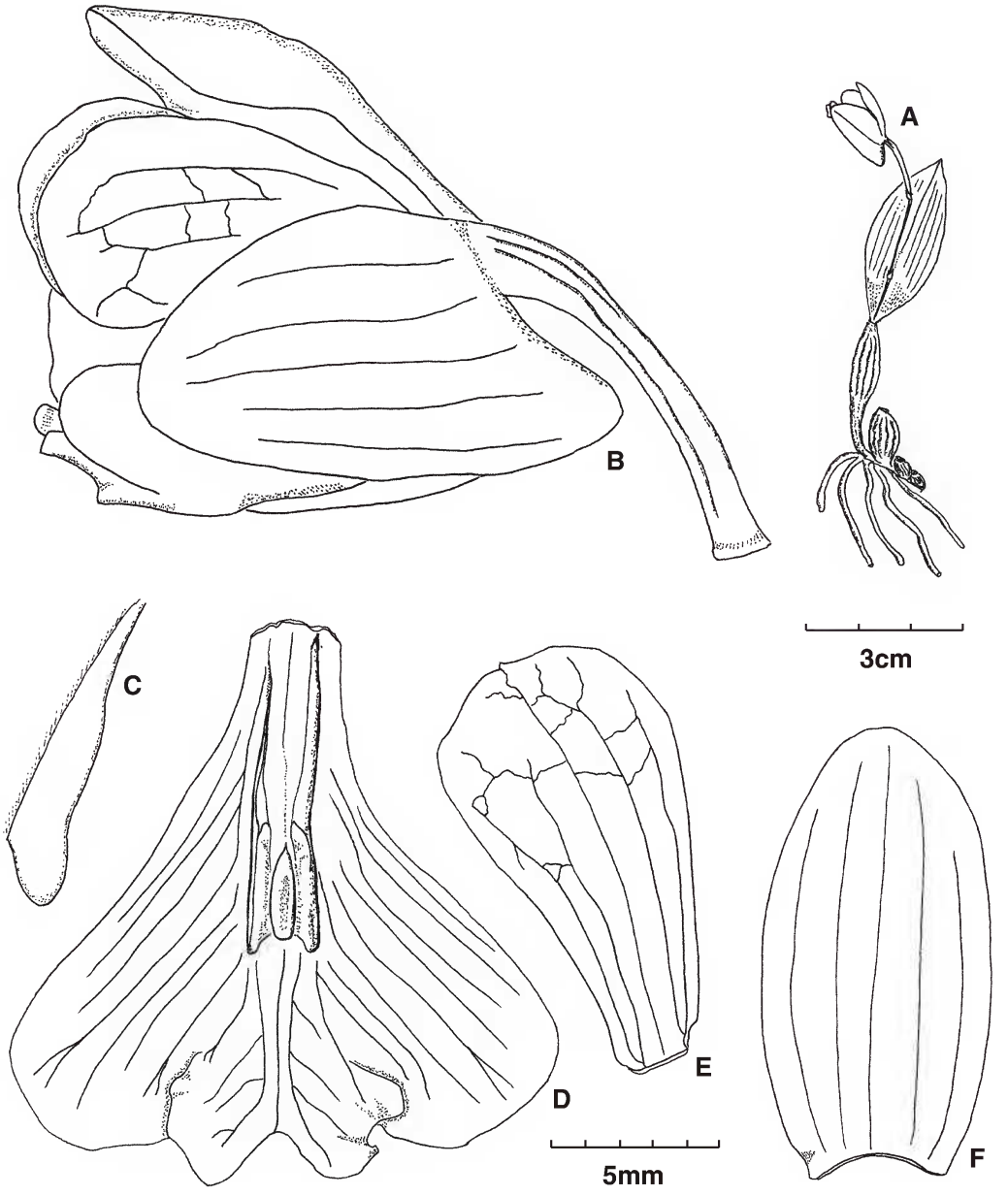

Fig. 4. ***Dendrobium spenceanum.*** A. plant. B. lateral view of flower. C. lateral profile of callus. D. adaxial view of labellum. E. adaxial view of petal. F. adaxial view of dorsal sepal. All from *Brass 13324* (AMES). A and B-F to respective scales.

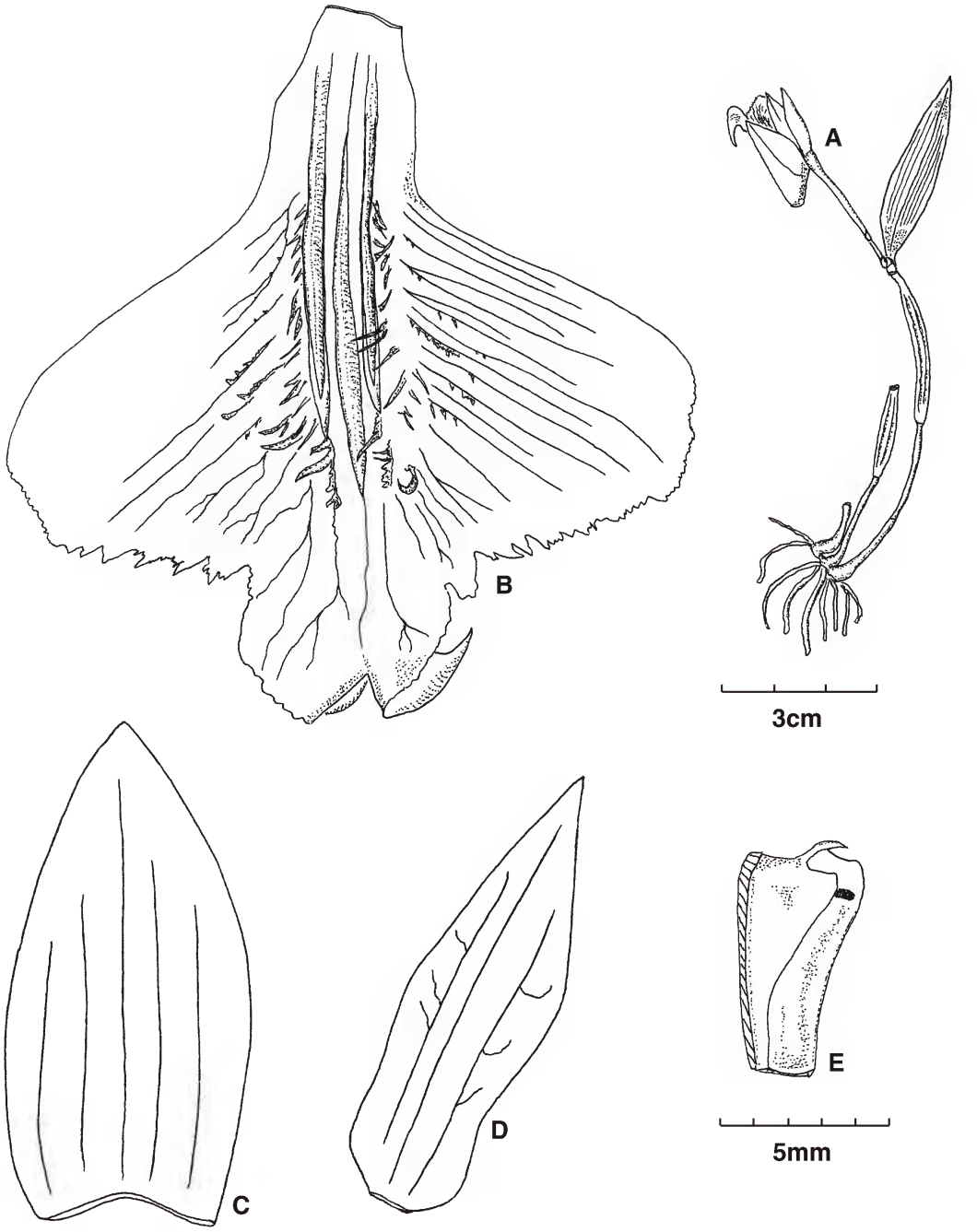

Fig. 5. ***Dendrobium spinuliferum.*** A. plant. B. adaxial view of labellum. C. adaxial view of dorsal sepal. D. adaxial view of petal. E. column. All from *Brass 12051* (AMES). A and B-E to respective scales.

D. macrophyllum A.Rich. even though the transfer is found only in the bibliography.

Dendrobium stenopterum is a member of the *D. polysema* Schltr. complex which occurs in the Philippines, Sulawesi to New Guinea and down to Vanuatu. It has been very difficult for me to distinguish species in this group as all the forms seem to run into each other. However Phil Spence (pers. comm.) has found discriminatory characters for taxa in this complex and he intends to elaborate on these in a proposed book on section *Latouria.*

Dendrobium sect. **Pedilonum** Blume

Dauncey (2003) published a revision of this section, accepting 47 species. To this section I would add *D. limpidum* Schuit. & de Vogel, *D. scabrifolium* Ridl. (? = *D. crenatifolium* J.J.Sm.), *D. usitae* Yukawa (a natural hybrid between *D. bullenianum* Rchb.f. and *D. goldschmidtianum* Kraenzl.) and *D. paragnomus* which is described below. Also I restate my position on *D. obtusum* Schltr. and extend the distribution of one species to Indonesian Papua.

Dendrobium nothofagicola T.M.Reeve, *Orchadian* 7: 134 (1982). **Type:** Papua New Guinea. Enga Province: Wabag Distr., Yulimandaka via Sopas, (fl. in cult. June 1981), *P. Ken sub T. Reeve 551* (holo: LAE, *n.v.;* iso: E, K, NSW *n.v.*).

***Additional specimen examined*: Indonesia**. Papua Province: 18 km NE of Lake Habbema, Bele River, Nov 1938, *Brass 11099* (AMES).

***Distribution*:** Indonesia (Papua Province); Papua New Guinea.

***Notes*:** This species has not been previously recorded for the Indonesian province of Papua. The flowers of this collection were recorded as being orange-yellow and are typical for the species.

Dendrobium obtusum Schltr., in K.Schum. & Lauterb., *Fl. Schutzgeb. Sudsee, Nachtr.* 2: 177 (1905). **Type:** Papua New Guinea. West Sepik Province: Torricelli Ranges, April 1902, *R. Schlechter 14451* (holo: B†).

***Distribution*:** Indonesia (Papua Province); Papua New Guinea (including Bougainville).

***Notes*:** Dauncey (2003) has accepted *D. concavissimum* J.J.Sm. as the correct name for this species whilst accurately noting that the name *D. lauterbachianum* A.D.Hawkes is a superfluous and illegitimate replacement for *D. obtusum* Schltr.

I have previously outlined my arguments why *D. obtusum* was a valid name and not a homonym of "*D. obtusa*" Rchb.f. 1861 (Ormerod 1995). The latter name occurs in the index of Walper's *Annales* (Reichenbach 1861: 1150) under *Dendrobium.* It is quite obvious that the epithet and reference "*D. obtusa* Bl. (s.) 500. no. 24." refers to *Dendrocolla obtusa* Blume which is listed by Reichenbach as a synonym of *Sarcochilus obtusus* (Blume) Rchb.f.

It cannot be argued that *Dendrobium obtusa* of 1861 is a valid name or transfer because it was NOT accepted by the supposed author who correctly indicates by placing an "(s.)" with it in the index that it is a synonym. Thus the name "*D. obtusa"* is invalidly published because it is not accepted (Greuter *et al.* 2000,) and it thus has no status under the ICBN (*Art. 12*). Therefore the later *D. obtusum* of Schlechter must be accepted as a valid name and not a homonym.

Dendrobium paragnomus Ormerod **sp. nov.**

Species nova affinis *Dendrobio gnomo* Ames sed foliis latiusculis, inflorescentiis sessilis, floribus glabris (non scabris) et marginibus labelli integris (non minute erosis) differens. **Typus:** Papua New Guinea? cult. *G.C. Stocker sub P. Ormerod 23* (holo: BRI).

Dendrobium sp. aff. *D. gnomus*: Lavarack *et al.* (2000: 241).

Roots filamentous, white. Rhizome short. Stems clustered, 6–10 leaved in apical half, to 35 cm long and 0.6 cm thick; internodes cylindrical, 0.5–1.5 cm long. Leaves oblong-lanceolate, subacute, 2.7–3.5 cm long, 1.2–0.9 cm wide; sheaths purple-red with slightly raised nerves, ashy white when old, ± truncate. Inflorescences sessile, *c.* 3 mm long, four-flowered, on leafless

stems or below leaves on leafy stems; floral bracts deltate-cymbiform, subacute, 5–6 mm long and 4 mm wide. Flowers resupinate; pedicel plus ovary narrowly clavate, ribbed, 7–8 mm long, glabrous, unscented, long lasting; sepals, petals and lip dark vivid mauve. Dorsal sepal ovate-elliptic, subacute, *c.* 8 mm long and 3.7 mm wide; lateral sepals obliquely ovate-elliptic, subacute, *c.* 13 mm long and 5 mm wide, forming with the column-foot a mentum *c.* 5 mm long. Petals oblong, acute, 7.5–8 mm long and 2.5 mm wide; labellum obovate-trulliform, subacute, apical 1/3 obtusely deflexed, *c.* 12 mm long and 5 mm wide, the basal 1/4 concave with fluid inside, *c.* 3 mm long and 2.5 mm wide, separated from the lamina by a transverse septum, constriction at septum *c.* 2 mm wide, lamina *c.* 9 mm long and 5 mm wide. Column *c.* 2.5 mm long; columnfoot appressed to ovary, *c.* 4.5 mm long. **Fig. 6.**

***Distribution*:** Papua New Guinea?

***Notes*:** This species is closely related to *D. gnomus* Ames from the Solomon Islands but has slightly broader leaves, sessile inflorescences, glabrous (not scabrous) flowers with the labellum margin entire (not minutely erose). Dauncey (pers. comm.) kindly confirmed that the present taxon was undescribed.

Dr. Geoff Stocker obtained this plant from Papua New Guinea in the early 1970's but was unaware of where it was originally collected. It is an attractive species now fairly common in Australian orchid collections thanks to Dr. Stocker's efforts in propagating it.

***Etymology*:** The specific epithet is derived from the Greek compound *para* (near or similar to) and *gnomus* (a dwarf), in reference to the similarity of the species to *D. gnomus* Ames.

Glomera Blume

There are 41 species in New Guinea so far recognised for this genus that extends from Thailand (Seidenfaden & Pedersen 2003) to Samoa. Several species remain to be described, some of them quite large plants. The flowers are quite similar in most species but diagnostic characters are often readily detected in the vegetative parts of the plants.

Glomera pseudomonanthos Ormerod **sp. nov.**

Glomerae subpetiolatae Schltr. arcte affinis sed caulibus 4–7 mm (non 2–3 mm) diam., foliis oblongis 9–13 mm latis (non ligulatis-lanceolatis 4.5–7 mm latis), et floribus virgineis praeter labellum viride apice atroviridi usque purpureo-nigro (adversum flores virgineos tantum apice labelli atroviride) distinguenda. **Typus:** Papua New Guinea. Morobe Province: Dawon, 12 June 1964, *A. Millar NGF23408* (holo: LAE; iso: AMES, BRI, K; BO, CANB, L *n.v.*).

Epiphytic or terrestrial herb. Rhizome short. Stem terete at base, becoming complanate, 29–36.5 cm long and 0.2–0.5 cm wide, laxly 4–8-leaved or more. Leaves ±oblong, sub-equally and obtusely bilobed, subpetiolate, 3–6.5 cm long and 0.9–1.3 cm wide, light to dark glossy green; sheaths obcuneate, apex truncate, smooth, lightly striate, 1.1–2.3 cm long and 0.4–0.7 cm wide. Inflorescences terminal, capitate, subglobose, *c.* 1.5 cm wide; subtending sheath ovate-elliptic, acute, *c.* 2 cm long and 1.2 cm wide. Flowers resupinate; pedicel plus ovary six-ribbed, 5–7 mm long, glabrous; sepals and petals white to greenish-white, lip green to dark green with apex dark green to purple-black. Dorsal sepal broadly elliptic, shortly acuminate, 5-nerved, 4–4.5 mm long and 3–3.5 mm wide; lateral sepals elliptic-quadrate, very shortly acuminate, 5-nerved, connate to the back of the spur, *c.* 5 mm long and 3.5 mm wide. Petals obovate-elliptic, very shortly and obtusely apiculate, *c.* 4.5 mm long and 3 mm wide; labellum lamina fleshy, obovate, obtuse, *c.* 2 mm long and wide. Spur subglobose, *c.* 2 mm long. Column *c.* 1.6 mm long. **Fig. 7.**

***Additional specimens examined*: Indonesia.** Papua Province: Okwalimkam, river headwaters, June 1967, *Ridsdale & Galore NGF33197* (LAE). **Papua New Guinea**. Enga Province: Laiagam, Mar 1983, *Reeve 1051* (K). Southern Highlands Province: Tari Distr., Komo Subd., Eanda, Jul 1980, *Reeve 2587* (K, NSW).

***Distribution and habitat*:** Indonesia (Papua Province); Papua New Guinea. Lower montane forest, 1220–2200 m.

***Notes*:** *Glomera pseudomonanthos* is a very distinctive species easily recognised by its

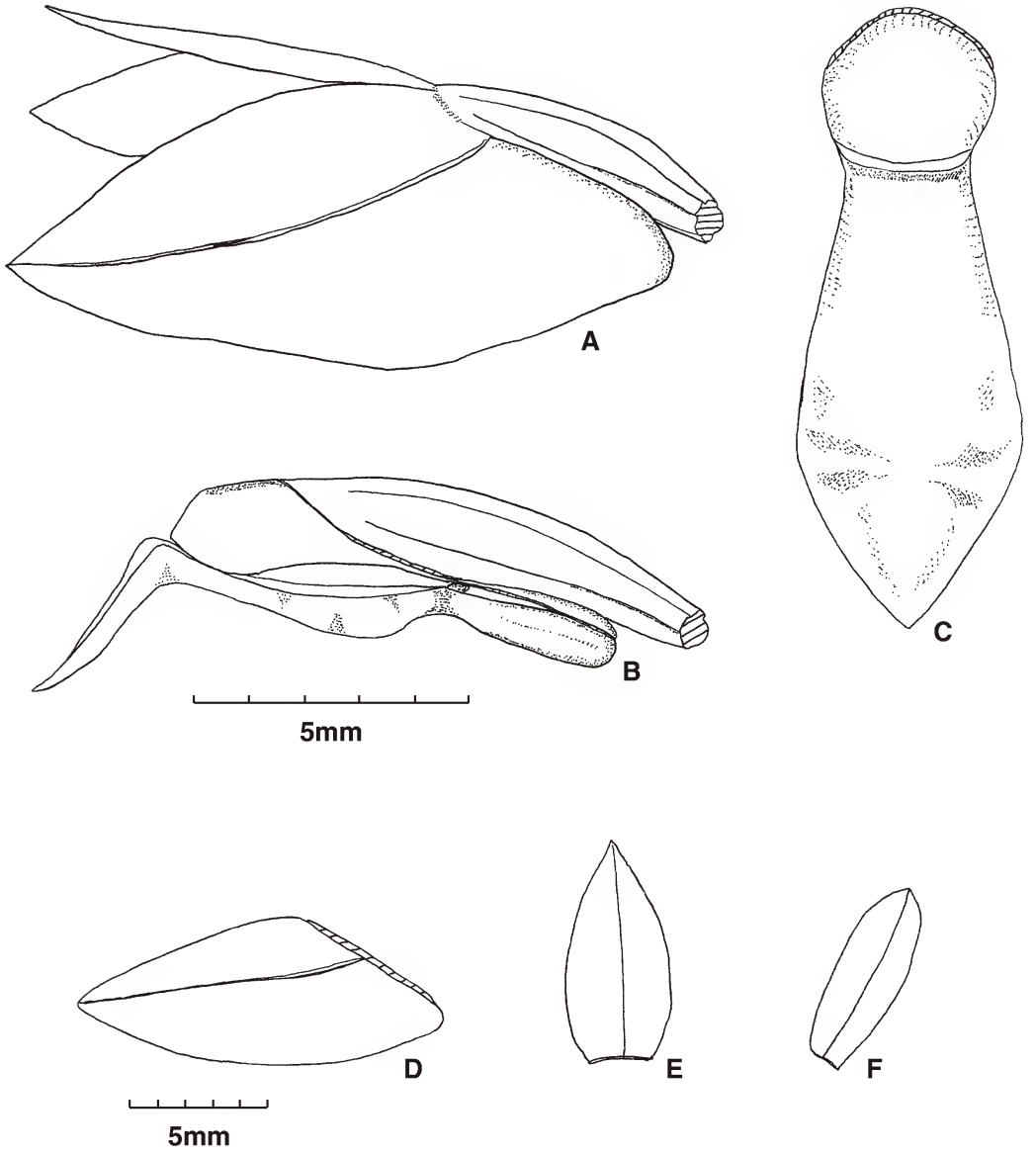

Fig. 6. ***Dendrobium paragnomus.*** A. lateral view of flower. B. lateral view of flower minus sepals and petals. C. adaxial view of labellum. D. adaxial view of lateral sepal. E. adaxial view of dorsal sepal. F. adaxial view of petal. All from *Stocker sub Ormerod 23* (BRI). A-C and D-F to respective scales.

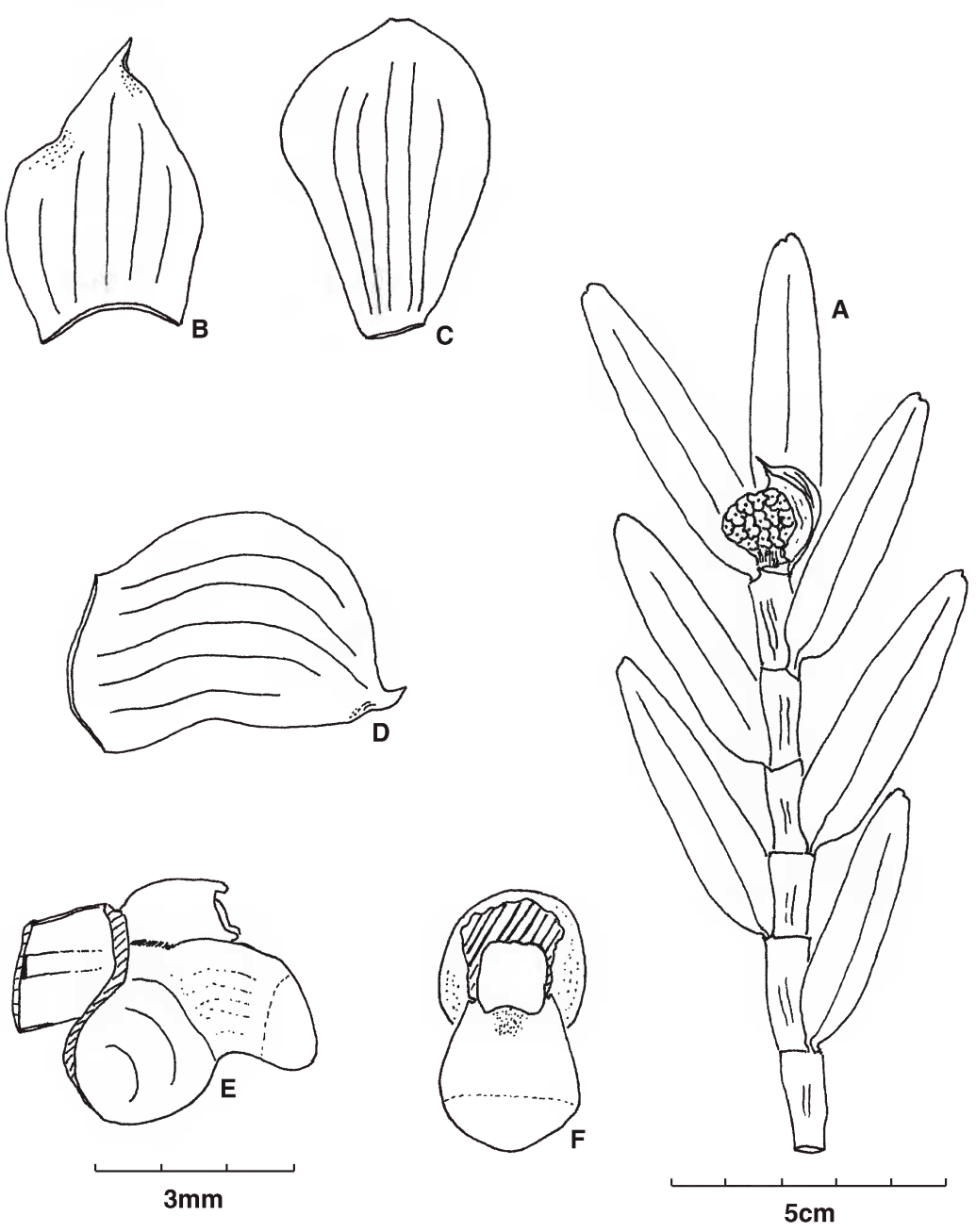

Fig. 7. ***Glomera pseudomonanthos.*** A. plant with apical inflorescence. B. adaxial view of dorsal sepal. C. adaxial view of petal. D. adaxial view of lateral sepal. E. lateral view of flower minus sepals and petals. F. adaxial view of labellum and spur. A from *Millar NGF23408 (LAE);* B-F from *Ridsdale & Galore NGF33197 (LAE).* A and B-F to respective scales.

flattened stems and leaf sheaths, oblong leaves and white flowers with a green lip and darker apex. Only *G. subpetiolata* Schltr. appears to be closely related, this has more slender stems, narrower leaves and white flowers with only the apex of the lip dark green. One collection of *G. subpetiolata* was available for comparison, it was collected near Bupu Village in Morobe Province, Papua New Guinea [*Millar NGF22613* (LAE)].

***Etymology*:** The specific epithet is derived from the Greek compound *pseudo* (false) and *monanthos*, from the compound *mono* (one), and *anthos* (flower). This is in reference to the vegetative habit that resembles that of certain *Dendrobium* species in sect. *Biloba* J.J.Sm. (formerly sect. *Monanthos* Schltr.).

Pseuderia Schltr.

In New Guinea fourteen described species may be recognized in this genus. Yukawa *et al.* (1993, 1996) have argued for the removal of this genus from the *Dendrobiinae* based on chloroplast DNA restriction site variation and rbcL sequences. I agree with Yukawa and his colleagues since there is also good morphological evidence for such a proposal. *Pseuderia* differs from all *Dendrobiinae* in possessing convolute leaves, an elongated column lacking a columnfoot and the incompletely divided pollinia. Yukawa *et al.* (1993, 1996) suggest placing *Pseuderia* in the *Podochileae,* but admit (1996: 173) that there is a lack of evidence to support such a move.

The following species is easily recognised among the known taxa in New Guinea by its narrow lanceolate leaves.

Pseuderia takeuchii Ormerod **sp. nov.**

Species nova *P. brevifolio* J.J.Sm. affinis sed foliis 3-5plo angustioribus, floribus rubro-brunneis et labello prope apicem area densa pubescenti praedito differt. **Typus:** Papua New Guinea. East Sepik Province: Sitipa River headwaters, near Gahom Village, 5 September 1990, *W. Takeuchi 6632* (holo: BRI; iso: AMES).

Epiphytic herb. Roots and lower part of plant not seen. Stem terete, branching, laxly foliose, part preserved 32 cm long, in lower part to 3.5 mm thick, in upper part 1–1.75 mm thick; internodes 4–16 mm long, averaging 8 mm long on branchlets. Leaves lanceolate, acute, thin, 48.5–60.5 mm long and 3–5.5 mm wide; leaf sheaths striate, minutely black-brown hairy. Inflorescences to 5 mm long, arising suboppositely to leaf lamina, probably successively one-flowered. Flowers resupinate; pedicel plus ovary terete, *c.* 6.5 mm long, red-brown. Dorsal sepal linear-ligulate, obtuse, triveined, *c.* 12 mm long and 2 mm wide; lateral sepals falcate, ligulate, apiculate, triveined, *c.* 10 mm long and 2.5 mm wide. Petals slightly falcate, linear-ligulate, obtuse, triveined, *c.* 9 mm long and 1.6-1.75 mm wide; labellum obovate-oblanceolate, obtuse, apical third laxly pubescent becoming densely pubescent, lower half with a keel canaliculate (appearing bicarinate) for *c.* 3 mm before it becomes unicarinate, in total lip *c.* 8 mm long and 3.5 mm wide, at very base *c.* 0.5 mm wide where attached. Column slender, gently arcuate, *c.* 5.5 mm long. **Fig. 8.**

***Distribution and habitat*:** Papua New Guinea (East Sepik Province). Alluvial forests with a tall canopy in the flood zone of the river, *c.* 100 m.

***Notes*:** This species is similar to *Pseuderia brevifolia* J.J.Sm. (also from the New Guinea north coast) in having short leaves; however, it differs from that plant in having the leaves 3–5 times narrower, red-brown flowers and a lip with a dense pubescent patch near its apex. In *P. brevifolia* the leaves are wider (1.3–1.9 cm wide), the flowers are yellowish with red to violet dots and the lip is loosely papillose to pubescent.

***Etymology*:** The specific epithet honours W. Takeuchi, collector of the type specimen.

Robiquetia Gaud.

Five species of this genus are recognised as occurring in New Guinea, these are: *R. ascendens* Gaud. (Syn.: *Saccolabium mooreanum* Rolfe), *R. camptocentrum* (Schltr.) J.J.Sm., *R. flexa* (Rchb.f.) Garay (Syn.: *Ornithochilus moretonii* F.M.Bailey), *R. gracilistipes* (Schltr.) J.J.Sm. and *R. hamata* Schltr. Besides the one described below there appears to be at least one more new taxon that occurs on New Ireland; however, material is insufficient to describe it at this time.

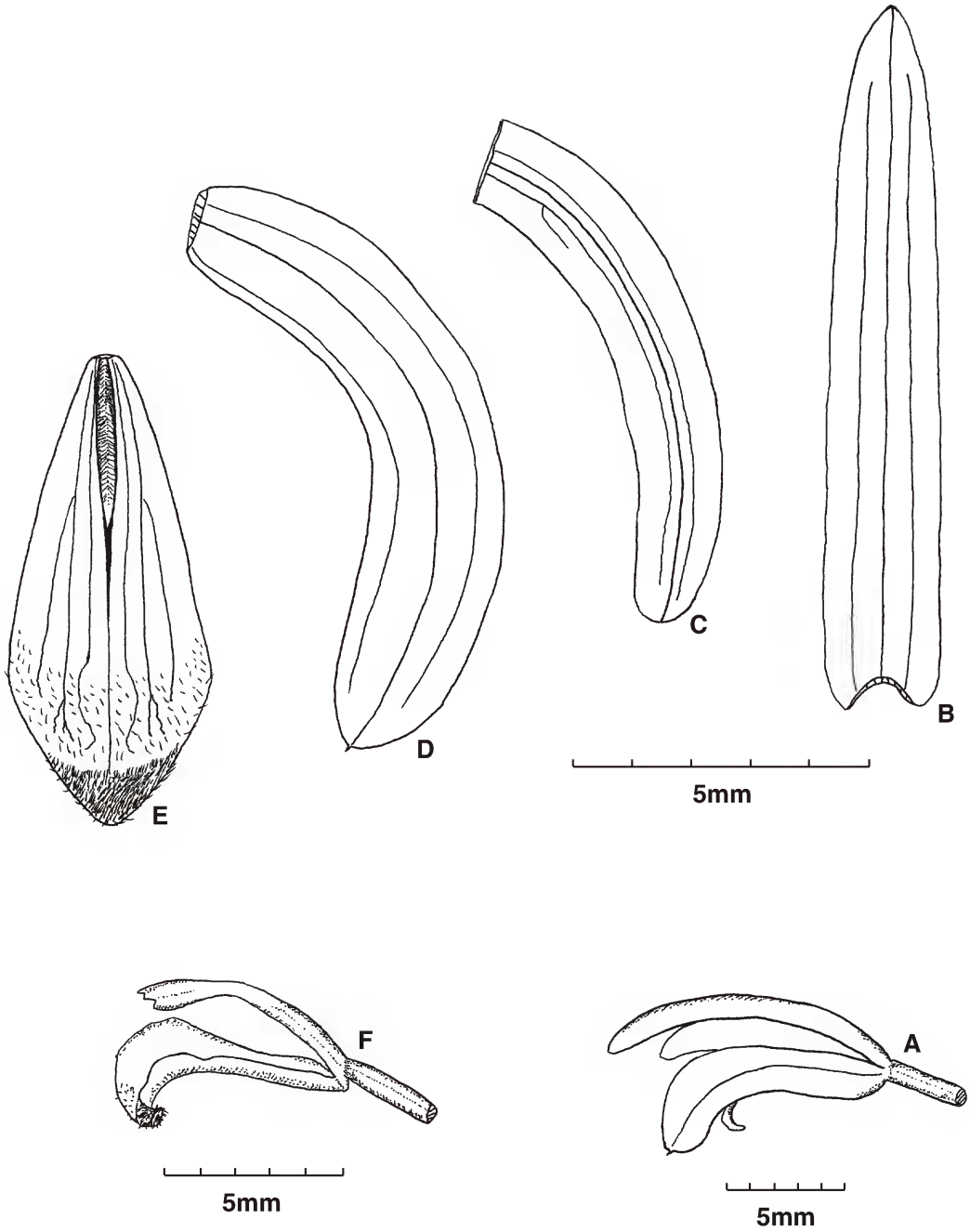

Fig. 8. ***Pseuderia takeuchii.*** A. lateral view of flower. B. adaxial view of dorsal sepal. C. adaxial view of petal. D. adaxial view of lateral sepal. E. adaxial view of labellum. F. column and labellum, the latter unequally folded longitudinally due to pressing. All from *Takeuchi 6632* (BRI). A, B-E and F to respective scales.

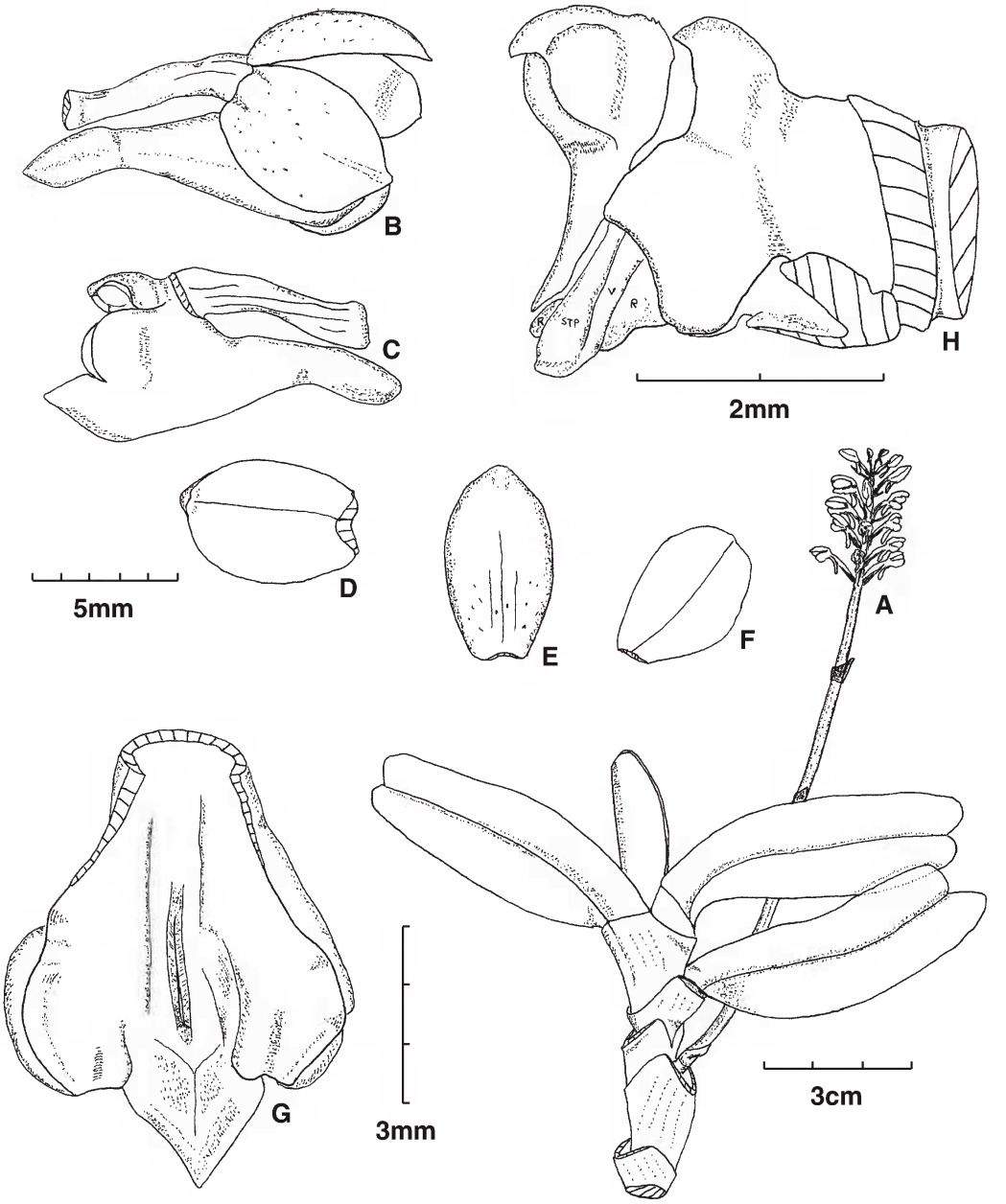

Fig. 9. ***Robiquetia brassii.*** A. plant with flowering inflorescence. B. lateral view of flower. C. lateral view of column and labellum. D. adaxial view of lateral sepal; E. abaxial view of dorsal sepal. F. adaxial view of petal. G. adaxial view of labellum. H. adaxial view of column (r=rostellum, stp=stipes, v=viscidium). A from *Brass 11716 (BRI);* B-H from *Kalkman & Nicolas 4159 (AMES).* A, B-F, G and H to respective scales.

Robiquetia brassii Ormerod **sp. nov.**

Species nova affinis *R. camptocentrum* (Schltr.) J.J.Sm. sed floribus labello epichilo adaxialiter ecalloso non bicalloso differt. **Typus:** Indonesia. PAPUA PROVINCE: Balim River, December 1938, *L.J. Brass 11716* (holo: BRI; iso: AMES).

Epiphytic herb. Stem elongate, leafy, at least 15–24 cm long and 0.5–0.85 cm thick but 1.3–2 cm wide across top of sheaths. Roots terete, elongate, at least 27 cm long and 0.3–0.4 cm thick. Leaves 3–7 or more, oblong to ligulate, thickly coriaceous, emarginate to obliquely truncate, lobes obtuse to truncate, from *c.* 6 cm long and 2.1 cm wide to *c.* 23 cm long and 3.6 cm wide; sheaths obliquely truncate opposite leaf lamina, 1.5–4.4 cm long. Inflorescences 13.5–30 cm long, to 0.4 cm thick; peduncle 11–19 cm long; peduncular sheaths three, scattered, tubular, clasping, acute, 0.7–1.35 cm long; rachis 2.5–11 cm long, densely 15 to many-flowered; floral bracts ovate-lanceolate, acute, 0.5–1 cm long and 0.2–0.3 cm wide. Flowers resupinate; pedicel plus ovary cylindric to weakly clavate, laxly covered in short scales, 5.5–6 mm long; sepals and petals fleshy, red to dirty purple. Dorsal sepal obovate-elliptic, obtuse, concave, trinerved, 4.5–6 mm long and 2.5–3.5 mm wide, sparsely covered in short scales outside; lateral sepals broadly oblique-elliptic, obtuse, 4–6 mm long and 2.8–4 mm wide, sparsely covered in short scales outside. Petals obovate-elliptic, obtuse, 1–2-nerved, 4–5.5 mm long and 3–4 mm wide; labellum trilobed, spurred, connate to ventral sides of the column for *c.* 1 mm, 4–5 mm long and 5–6.5 mm wide; hypochile with broadly rounded sidelobes 2–3.5 mm long and 2–2.5 mm wide, each inside at front with a fleshy callosity *c.* 1 mm long, between sidelobes a low short median keel terminating at the epichile base; epichile fleshy, ovate, subacute, 1.5–2 mm long; spur conical-cylindric, acute to obtuse, straight to gently geniculate, 5–10 mm long. Column short, stout, hamate, *c.* 2 mm long and 1.5–2.5 mm wide laterally. **Fig. 9 & 10.**

***Additional specimen examined*: Indonesia.** PAPUA PROVINCE: Star Mts., Sibil Valley, May 1959, *Kalkman & Nicolas 4159* (AMES).

***Distribution and habitat*:** Indonesia (Papua Province). Lower montane forest, epiphyte on riverbank trees (both records), 1200–1600 m.

***Notes*:** This species is closely related to *Robiquetia camptocentrum* (Schltr.) J.J.Sm. *R. brassii* is distinguished by the fleshy, entire labellum epichile which is not split medially above with each side thickened into an ovoid to globose callosity. Furthermore, in *R. camptocentrum* a distinct sinus is present between the lateral lobes and the epichile whilst when these are viewed laterally in *R. brassii* this sinus is absent.

Robiquetia hamata is also very similar to *R. brassii* that also occurs in the Indonesian province of Papua [*Eyma 4718* (AMES, BRI, K) from Wissel Lakes]. However; in *R. hamata* the labellum epichile is split medially above with diverging margins and it is hollowed out like the bow of a boat whilst in *R. brassii* the epichile is solid.

The holotype of *R. brassii* is a small-leaved portion of the plant whilst the isotype in AMES and the other known collection have leaves 3-4 times as long. In rehydrated material the flowers appear to have a thickened median line on the exterior of the sepals but this feature is probably an artifact of drying associated with the fleshy flowers.

***Etymology*:** The specific epithet honours L.J.Brass, collector of the type specimen.

Tainia Blume

If *Tainia* is interpreted in the strict sense then only one species has been recognised as occurring in New Guinea until now. The first taxon reported from New Guinea was *Tainia trinervis* (Blume) Rchb.f. which was at first described by Schlechter under the name *T. parviflora*. It is now known to occur in the Moluccas, New Guinea, Bougainville and northeast Australia.

The second species that is described below, was first recognised by Mr. Walter Kittredge (HUH) but due to an oversight, the single collection was not loaned when the genus was monographed by Turner (1992).

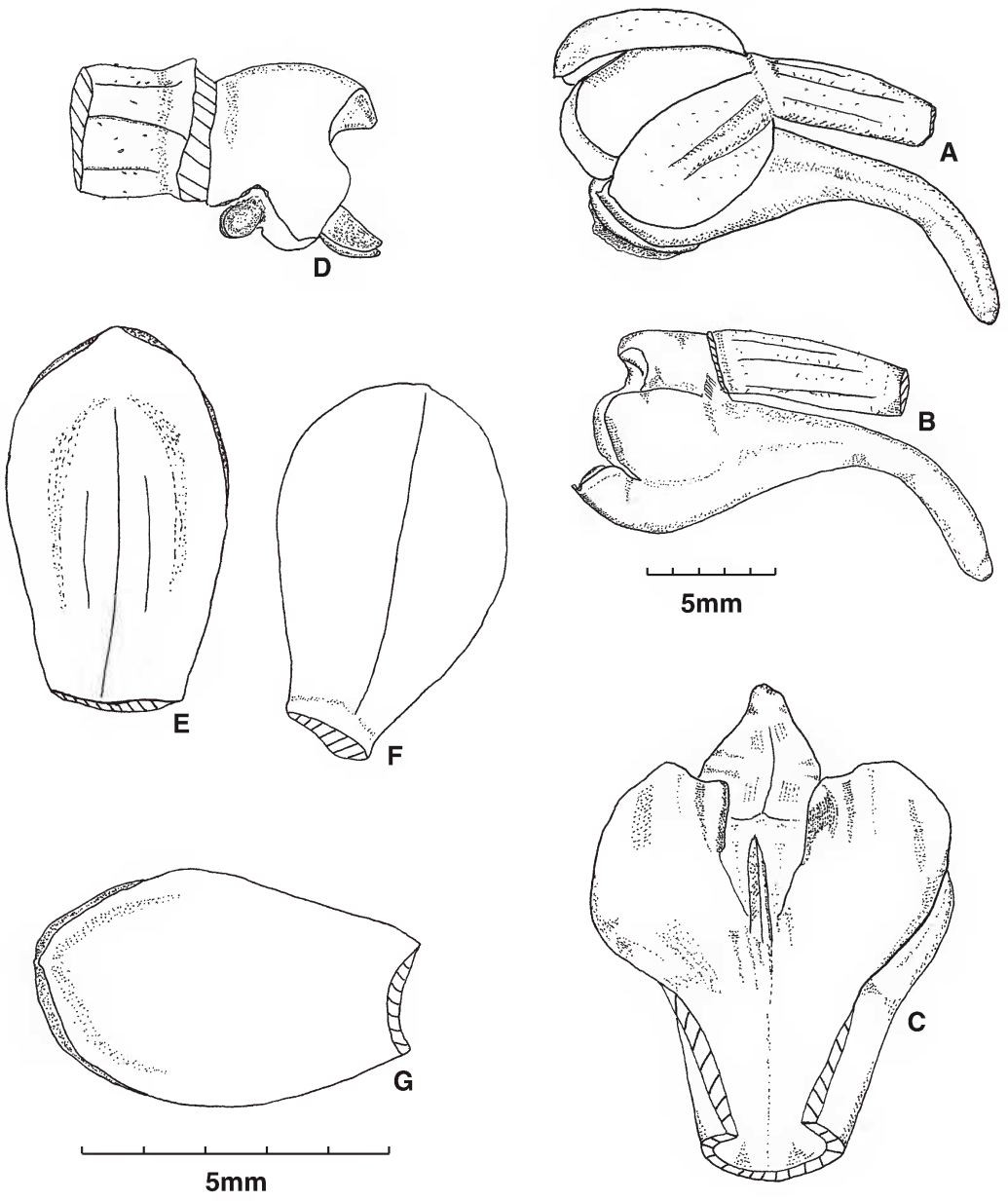

Fig. 10. ***Robiquetia brassii.*** A. lateral view of flower. B. lateral view of labellum and column (minus anther and pollinarium). C. adaxial view of labellum. D. lateral view of column minus anther with pollinia on the stigma. E. adaxial view of dorsal sepal. F. adaxial view of petal. G. adaxial view of lateral sepal. All from *Brass 11716* (AMES). A, B and C-G to respective scales.

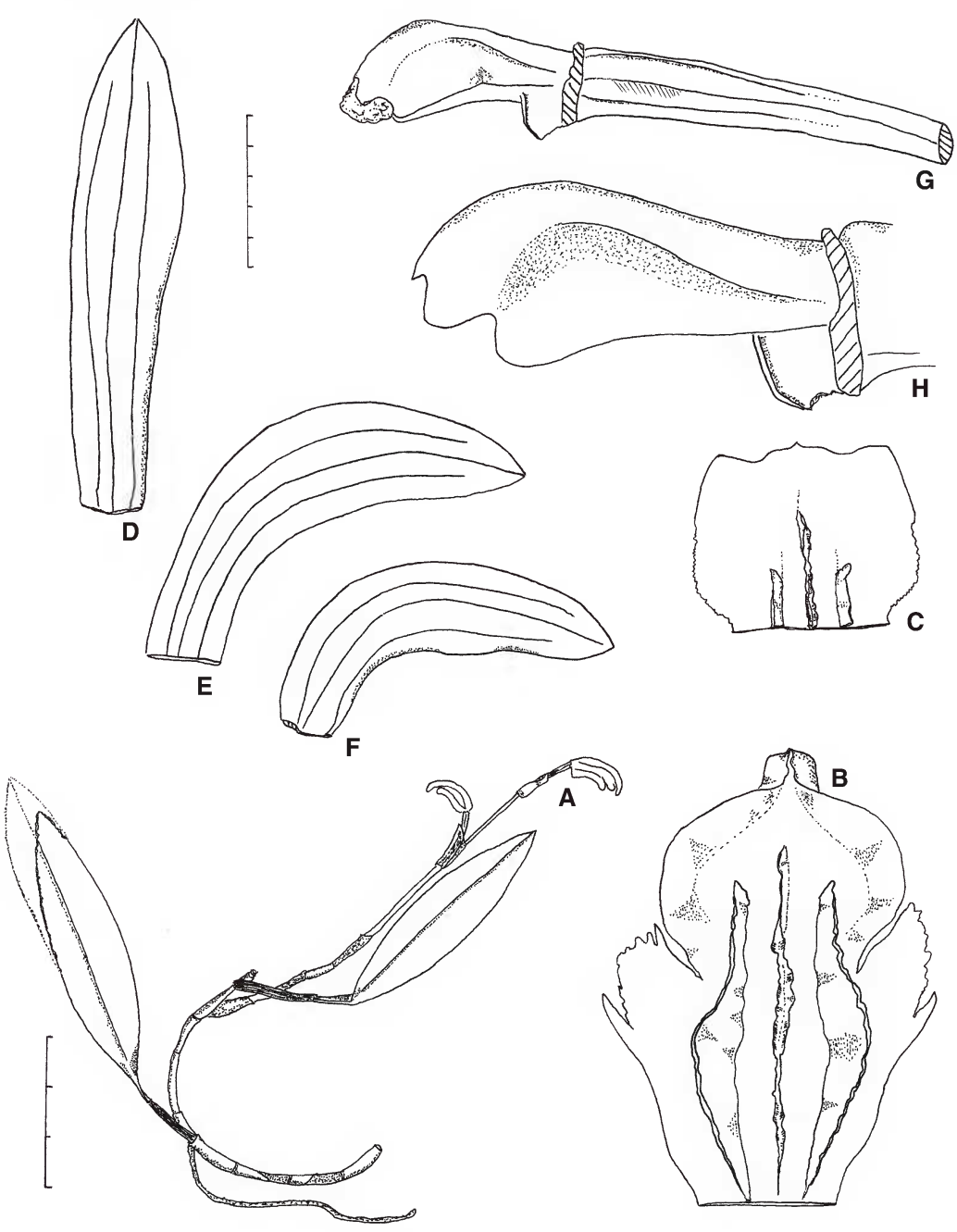

Fig. 11. ***Tainia serratiloba.*** A. plant with flowering inflorescence. B. adaxial view of labellum. C. adaxial view of spread epichile. D. adaxial view of dorsal sepal. E. adaxial view of petal. F. adaxial view of lateral sepal. G. lateral view of column. H. lateral view of column minus anther and with wings spread out. All from *Brass 12308* (AMES). A and D-G to respective scales. B, C, H not to scale.

Tainia serratiloba Ormerod **sp. nov.**

Planta pro genere pusilla, inflorescentiis pauciflora, floribus labello trilobatis tricarinatis et lobis lateralibus erosolaceratis. **Typus:** Indonesia. Papua Province: 15 km SW of Bernhard Camp, Idenburg River, January 1939, *L.J. Brass 12308* (holo: AMES).

Epiphytic herb. Roots few, elongate. Rhizome terete, internodes 8–11 mm long and 1–3 mm thick; rhizome sheaths tubular, clasping, obliquely truncate, *c.* 7 mm long. Pseudobulbs 30–40 mm apart, narrowly conical-cylindric, unifoliate, fused(?) to rhizome for up to 7.5 mm, up to 12.5 mm long and 2 mm thick. Leaves ovate-lanceolate to oblong-lanceolate, acute, 13-nerved, 48–66 mm long and 11–14 mm wide. Inflorescences 62–130 mm long; peduncles resembling pseudobulbs basally, 59–75 mm long and to 2 mm thick; sheathing bracts three, laxly spaced, tubular, obliquely truncate, acute, 8–15 mm long; rachis laxly 1–4-flowered, 21–55 mm long; floral bracts tubular, obliquely truncate, acute, 6.5–9.5 mm long. Flowers resupinate; pedicel plus ovary narrowly clavate, 9–12.5 mm long; sepals brown with yellow tips, lip white. Dorsal sepal ligulate-oblanceolate, acute, *c.* 15.5 mm long and 3.5 mm wide; lateral sepals falcate, oblong-ligulate, acute, median nerve weakly carinate externally, *c.* 10 mm long and 2.8 mm wide. Petals oblong-ligulate, falcate, acute, *c.* 13 mm long and 3.25 mm wide; labellum trilobed, *c.* 7.5 mm long and 6 mm wide, with three subcrispate-undulate keels each grooved on the upper edge; hypochile *c.* 4.5 mm long, with obliquely subquadrate, erose-lacerate sidelobes *c.* 1 mm long and 2 mm wide; epichile subquadrate, minutely apiculate, *c.* 3 mm long and 4.5 mm wide. Column broadly winged, without anther *c.* 6.5 mm long, c. 3 mm wide laterally at apex, *c.* 1.2 mm wide laterally near base, lobe of columnwings *c.* 0.9 mm wide; pollinia eight. Capsule *c.* 26 mm long and 6.5 mm thick with pedicel 10 mm long. **Fig. 11.**

***Distribution and habitat*:** Indonesia (Papua Province). Lower montane forest, rainforest gully, *c.* 1750 m.

***Notes*:** This plant superficially resembles *Collabium pumilum* (J.J.Sm.) Seidenf. from Sulawesi in habit, presumably because it has also adapted to a montane mossy habitat. *Tainia serratiloba* does not appear to have any close relatives in *Tainia* and stands alone in the genus.

***Etymology*:** The specific epithet is derived from the Latin *serratus* (serrated or notched), and the Latin compound *lobus* derived from the Greek *lobos* (a lobe or pod), in reference to the serrated lateral lobes of the labellum.

Acknowledgements

I wish to thank W. Kittredge (HUH), G. Romero (AMES), G. Stocker, D.L. Szlachetko and T. Yukawa (TNS) for their help with various matters. The Directors of the cited herbaria allowed access to collections in their care. P. Bostock (BRI) contributed the majority of the Latin diagnoses whilst R.J.F. Henderson (ex BRI) contributed the Latin diagnoses of *Glomera pseudomonanthos* and *Robiquetia brassii.*

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